WHAT IS CLAIMED IS:

1.   A method for mapping a plurality of logical blocks to a physical block, the plurality of logical blocks and the physical block being associated with a non-volatile
5   memory system, the method comprising:

identifying a first logical block of the plurality of logical blocks which meets at least one criterion;

identifying a second logical block of the plurality of logical blocks which is substantially complementary to the first logical block; and

10   providing contents associated with the first logical block and contents associated with the second logical block to the physical block.

2.   The method of claim 1 wherein identifying the first logical block of the plurality of logical blocks which meets the at least one criterion includes determining if the
15   physical block has a relatively low erase count.

3.   The method of claim 2 wherein identifying the first logical block of the plurality of logical blocks which meets the at least one criterion further includes determining when the contents associated with the first logical block are associated with less than a first
20   predetermined number of groups associated with the first logical block, each group associated with the first logical block including at least one logical page.

4.   The method of claim 1 wherein identifying the second logical block of the plurality of logical blocks which is substantially complementary to the first logical block
25   includes determining when the contents associated with the second logical block are associated with less than a second predetermined number of groups associated with the second logical block, each group associated with the second logical block including at least one logical page.

5.   The method of claim 1 wherein identifying the second logical block of the plurality of logical blocks which is substantially complementary to the first logical block includes determining when a number of groups associated with the second logical block which have associated data and a number of groups associated with the first logical block which have associated data is less than or equal to a total number of groups associated with the physical block.

6.   The method of claim 1 wherein the first logical block is mapped to the physical block when it is identified, the method further including:
        reclaiming a first block associated with the second logical block after providing the contents associated with the first logical block and the contents associated with the second logical block to the physical block.

7.   The method of claim 1 further including:
        reclaiming a first block associated with the first logical block after providing the contents associated with the first logical block and the contents associated with the second logical block to the physical block; and
        reclaiming a second block associated with the second logical block after providing the contents associated with the first logical block and the contents associated with the second logical block to the physical block.

8.   A non-volatile memory system comprising:
        a non-volatile memory, the non-volatile memory having an associated physical block;
        means for identifying a first logical block of a plurality of logical blocks which meets at least one criterion;
        means for identifying a second logical block of the plurality of logical blocks which is substantially complementary to the first logical block; and
        means for providing contents associated with the first logical block and contents associated with the second logical block to the physical block.

9.   The non-volatile memory system of claim 8 wherein the means for identifying the first logical block of the plurality of logical blocks which meets the at least one criterion include at least one of means for determining if the physical block has a relatively low

5   erase count and means for determining when the contents associated with the first logical block are associated with less than a first predetermined number of groups associated with the first logical block, each group associated with the first logical block including at least one logical page.

10   10.   The non-volatile memory system of claim 8 wherein the means for identifying the second logical block which is substantially complementary to the first logical block include means for determining when the contents associated with the second logical block are associated with less than a second predetermined number of groups associated with the second logical block, each group associated with the second logical block

15   including at least one logical page.

11.   The non-volatile memory system of claim 8 wherein the means for identifying the second logical block which is substantially complementary to the first logical block include means for determining when a number of groups associated with the second

20   logical block which have associated data and a number of groups associated with the first logical block which have associated data is less than or equal to a total number of groups associated with the physical block.

12.   The non-volatile memory system of claim 8 wherein the non-volatile memory

25   system is one of an embedded system, a Smart Media card, a Compact Flash card, a Secure Digital Card, and a MultiMedia card.

13.   A memory system comprising:

        a non-volatile memory, the non-volatile memory having an associated physical

30   block;

code devices that identify a first logical block of a plurality of logical blocks which meets at least one criterion;

code devices that identify a second logical block of the plurality of logical blocks which is substantially complementary to the first logical block;

5   code devices that provide contents associated with the first logical block and contents associated with the second logical block to the physical block; and

a memory area that stores the code devices.

14.   The memory system of claim 13 wherein the code devices that identify the first

10 logical block of the plurality of logical blocks which meets the at least one criterion include at least one of code devices that determine if the physical block has a relatively low erase count and code devices that determine when the contents associated with the first logical block are associated with less than a first predetermined number of groups associated with the first logical block, each group associated with the first logical block

15 including at least one logical page.

15.   The memory system of claim 13 wherein the code devices that identify the second logical block which is substantially complementary to the first logical block include code devices that determine when the contents associated with the second logical block are

20 associated with less than a second predetermined number of groups associated with the second logical block, each group associated with the second logical block including at least one logical page.

16.   The memory system of claim 13 wherein the code devices that identify the second

25 logical block which is substantially complementary to the first logical block include code devices that determine when a number of groups associated with the second logical block which have associated data and a number of groups associated with the first logical block which have associated data is less than or equal to a total number of groups associated with the physical block.

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17.   The memory system of claim 13 wherein the first logical block is mapped to the physical block when it is identified, and the memory system further includes:

code devices that reclaim a first block associated with the second logical block after the contents associated with the first logical block and the contents associated with the second logical block are provided to the physical block.

18.   The memory system of claim 13 further including:

code devices that reclaim a first block associated with the first logical block after the contents associated with the first logical block and the contents associated with the second logical block are provided to the physical block; and

code devices that reclaim a second block associated with the second logical block after the contents associated with the first logical block and the contents associated with the second logical block are provided to the physical block.

19.   The memory system of claim 13 wherein the non-volatile memory system is one of n embedded system, a Smart Media card, a Compact Flash card, a Secure Digital Card, and a MultiMedia card.

20.   A method for associating a first logical block with at least a first physical block, the first physical block being associated with a non-volatile memory system, the method comprising:

determining when the first physical block is associated with a second logical block;

determining when it is appropriate to map the first logical block to the first physical block when it is determined that the first physical block is associated with the second logical block; and

mapping the first logical block to the first physical block when it is determined that it is appropriate to map the first logical block to the first physical block.

21.   The method of claim 20 wherein when it is determined that the first physical block is not associated with the second logical block, the method further includes:

mapping the first logical block to the first physical block.

5   22.   The method of claim 21 further including:

determining when it is appropriate to map a third logical block to the first physical block; and

mapping the third logical block to the first physical block when it is determined that it is appropriate to map the third logical block to the first physical block.

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23.   The method of claim 21 wherein mapping the first logical block to the first physical block includes storing contents associated with the first logical block into the first physical block.

15   24.   The method of claim 23 wherein the first logical block includes a plurality of logical pages, the plurality of logical pages being grouped into a plurality of logical groups and wherein the first physical block includes a plurality of physical pages, the plurality of physical pages being grouped into a plurality of physical groups, whereby storing the contents associated with the first logical block into the first physical block

20   includes storing contents associated with a first logical group of the plurality of logical groups into a first physical group of the plurality of physical groups.

25.   The method of claim 21 further including:

determining when it is appropriate to map the first logical block to a second

25   physical block; and

mapping the first logical block to the second physical block when it is determined that it is appropriate to map the first logical block to the second physical block.

26.   The method of claim 25 wherein mapping the first logical block to the first

30   physical block includes mapping a first group of logical pages in the first logical block to

the first physical block and mapping a second group of logical pages in the first logical block to the second physical block.

27.   A non-volatile memory system comprising:

a non-volatile memory, the non-volatile memory including at least a first physical block;

means for determining when the first physical block is associated with a second logical block;

means for determining when it is appropriate to map the first logical block to the first physical block when it is determined that the first physical block is associated with the second logical block; and

means for mapping the first logical block to the first physical block when it is determined that it is appropriate to map the first logical block to the first physical block.

28.   The non-volatile memory system of claim 27 wherein when it is determined that the first physical block is not associated with the second logical block, the non-volatile memory system further includes:

means for mapping the first logical block to the first physical block.

29.   The non-volatile memory system of claim 28 further including:

means for determining when it is appropriate to map a third logical block to the first physical block; and

means for mapping the third logical block to the first physical block when it is determined that it is appropriate to map the third logical block to the first physical block.

30.   The non-volatile memory system of claim 28 wherein the means for mapping the first logical block to the first physical block include means for storing contents associated with the first logical block into the first physical block.

31.   The non-volatile memory system of claim 30 wherein the first logical block includes a plurality of logical pages, the plurality of logical pages being grouped into a plurality of logical groups and wherein the first physical block includes a plurality of physical pages, the plurality of physical pages being grouped into a plurality of physical

5   groups, whereby the means for storing the contents associated with the first logical block into the first physical block include means for storing contents associated with a first logical group of the plurality of logical groups into a first physical group of the plurality of physical groups.

10   32.   The non-volatile memory system of claim 28 further including:
        means for determining when it is appropriate to map the first logical block to a second physical block; and
        means for mapping the first logical block to the second physical block when it is determined that it is appropriate to map the first logical block to the second physical

15   block.

        33.   The non-volatile memory system of claim 32 wherein the means for mapping the first logical block to the first physical block include means for mapping a first group of logical pages in the first logical block to the first physical block and means for mapping a

20   second group of logical pages in the first logical block to the second physical block.

        34.   The non-volatile memory system of claim 27 wherein the non-volatile memory system is one of an embedded system, a Smart Media card, a Compact Flash card, a Secure Digital Card, and a MultiMedia card.

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        35.   A memory system comprising:
        a non-volatile memory, the non-volatile memory having at least a first associated physical block;
        code devices that cause a determination to be made regarding when the first

30   physical block is associated with a second logical block;

code devices that cause a determination to be made regarding when it is appropriate to map the first logical block to the first physical block when it is determined that the first physical block is associated with the second logical block;

code devices that cause the first logical block to be mapped to the first physical block when it is determined that it is appropriate to map the first logical block to the first physical block; and

a memory area that stores the code devices.

36.   The memory system of claim 35 wherein when it is determined that the first physical block is not associated with the second logical block, the memory system further includes:

code devices that cause the first logical block to be mapped to the first physical block.

37.   The memory system of claim 36 further including:

code devices that cause a determination to be made regarding when it is appropriate to map a third logical block to the first physical block; and

code devices that cause the third logical block to be mapped to the first physical block when it is determined that it is appropriate to map the third logical block to the first physical block.

38.   The memory system of claim 36 wherein the code devices that cause the first logical block to be mapped to the first physical block include code devices that cause contents associated with the first logical block to be stored into the first physical block.

39.   The memory system of claim 38 wherein the first logical block includes a plurality of logical pages, the plurality of logical pages being grouped into a plurality of logical groups and wherein the first physical block includes a plurality of physical pages, the plurality of physical pages being grouped into a plurality of physical groups, whereby the code devices that cause the contents associated with the first logical block to be stored

into the first physical block include code devices that cause contents associated with a first logical group of the plurality of logical groups to be stored into a first physical group of the plurality of physical groups.

5 40. The memory system of claim 35 further including:

code devices that cause a determination to be made regarding when it is appropriate to map the first logical block to a second physical block; and

code devices that cause the first logical block to be mapped to the second physical block when it is determined that it is appropriate to map the first logical block to the

10 second physical block.

41. The memory system of claim 40 wherein the code devices that cause the first logical block to be mapped to the first physical block include code devices that cause a first group of logical pages in the first logical block to be mapped to the first physical

15 block and code devices that cause a second group of logical pages in the first logical block to be mapped to the second physical block.

42. The memory system of claim 34 wherein the non-volatile memory system is one of an embedded system, a Smart Media card, a Compact Flash card, a Secure Digital

20 Card, and a MultiMedia card.